CLAIMS

What I claim as my invention is...

1. A diastolic volume limiting apparatus for insertion into a ventricle of a heart, including
   a. a hollow plastic sac with two openings,
   b. said sac being soft and compliant so that it will fill easily with blood to a certain, predetermined volume, but when the sac has reached capacity, no further filling is allowed.
2. The apparatus of claim 1 further including a volume compensating device fitted about at least a portion of said sac to take up excessive space between the inner surface of the ventricle and the sac.
3. The apparatus of claim 2 wherein the volume compensating device is flexible and has a chamber that can be filled with a liquid or gaseous filler material to expand the volume of the device.
4. The apparatus of claim 3 further including an access tube having opposing ends, one end communicating with said chamber and the other end communicating with an access port.
5. A method of treating a diseased heart including the steps of:
   a. creating a hollow plastic sac with two openings, said sac being soft and compliant so that it will fill easily with blood to a certain, predetermined volume, but when the sac has reached capacity, no further expansion is allowed;
   b. inserting said sac into a ventricle of a heart;
   c. connecting one of said openings in said sac to the annulus of the inflow valve of the ventricle; and

d. connecting the other of said openings in said sac to the annulus of the outflow valve of the ventricle.

6. The method of claim 5 including the additional steps of:

e. creating a volume compensating device shaped to surround a significant portion of said sac, said volume compensating device having the capability to expand and contract upon the increase or decrease of fluid inside said device;

f. inserting said device in the ventricle of the heart; and

g. inserting the said sac inside said device.

7. The method of claim 6 including the additional steps of periodically decreasing the fluid inside said device to shrink the size of the device.

8. The method of claim 5 including the additional steps of forming the sac so that when the sac is filled to capacity, it will appear generally in size and shape to match the size and shape of a ventricle of an undiseased human heart.

9. A flexible sac for placement in a ventricle of a heart, said sac having a capacity for receiving a predetermined volume of blood, and said sac, when filled to capacity, appears generally in size and shape to match the size and shape of a ventricle of an undiseased human heart.

10. A flexible sac for insertion in a chamber of a heart, said sac having a predetermined capacity that limits the amount of blood that can be received in said sac.

11. The sac of claim 10 wherein said predetermined capacity is less than the capacity of the chamber of an enlarged heart.

12. In combination, a sac for insertion in a chamber of a heart, said sac having a predetermined capacity which limits the amount of blood that can be received in said sac, and a volume compensation device shaped to fit about at least a portion of said sac, said device sized and shaped to substantially fill the area between the sac, when filled to capacity, and the wall of a chamber of the heart when the sac and device are inserted inside the chamber.

13. The combination of claim 12 further including an expansion chamber in said device for receiving a fluid and means for retracting a portion of the fluid in said expansion chamber to reduce the size of the device.

14. A method of reducing stress on the walls of a chamber of a heart by inserting a flexible sac in a chamber of the heart, said sac having a predetermined maximum capacity, and connecting the sac to the annulus of the inflow valve and to the annulus of the outflow valve of the chamber.

15. The method of claim 14 wherein said sac, when filled to said maximum capacity, exerts only minimal pressure on the walls of a chamber of the heart.

16. The method of claim 14 wherein said sac, when filled to said maximum capacity, exerts less pressure on the walls of a chamber of the heart than would be exerted if the sac had not been used.

17. The method of claim 14 further including the step of inserting a volume compensating device around the sac to fill the space between the sac, when filled to capacity, and the walls of the chamber of the heart, said device being of a size and shape so that during the

diastolic phase of the heart function, outward pressure on the walls of the chamber is reduced.

18. A method of reducing stress on the walls of a chamber of a heart by limiting to a predetermined quantity the volume of blood that is allowed to enter the chamber in the diastolic phase of the heart function, and the predetermined quantity is selected so that there is minimal pressure on the walls of the chamber.

19. A method of reducing stress on the walls of a chamber of a heart by limiting to a predetermined amount the volume of blood that is allowed to enter the chamber in the diastolic phase of the heart function.

20. A flexible sac for insertion in a chamber of the heart, said sac limiting to a predetermined amount the volume of blood that is allowed to enter the chamber in the diastolic phase of the heart function.

21. A method of treating a diseased heart by inserting a flexible sac in a chamber of the heart, said sac limiting to a predetermined volume the amount of blood that is allowed to enter the chamber in the diastolic phase of the heart function.

22. In combination, a heart and a man-made sac inserted within a chamber of said heart, said sac having a predetermined maximum volume.

23. The combination of claim 23 further including a volume compensation device between said sac and the wall of the heart chamber.

24. In combination, a sac for insertion in a heart, said sac having two openings, and a prosthetic inflow valve attached to one of said openings.

25. The combination of claim 25 further including an prosthetic outflow valve attached to the other of said openings.

26. In combination, a sac for insertion in a heart, said sac having two openings, and a prosthetic outflow valve attached to one of said openings.

27. A volume compensation device for insertion in a chamber of a heart, said device having an inside wall generally of the size and shape of a substantial portion of the heart chamber of a healthy heart and a mating outside wall, said walls being connected to create spacing between said walls, said spacing being adjustable to decrease the size of the device.

28. The device of claim 28 further including a tube and an access port, said tube communicating between said spacing and said access port.

29. A method of reducing the likelihood of enlargement of a cardiac chamber by inserting the sac of claim 20 in the heart and connecting the sac to the annulus of the inflow valve and to the annulus of the outflow valve of the chamber

30. A method of reducing the likelihood of enlargement of a cardiac chamber by inserting the sac of claim 20 in a chamber of the heart, as an addition to a conventional operation of the heart.

31. A method of treating a left ventricular aneurysm by inserting the sac of claim 20 in the left ventricle of the heart, as an addition to or step of a conventional operative repair of a left ventricular aneurysm.

32. A method of treating a ventricular septal defect by inserting the sac of claim 20 in the left ventricle of the heart and connecting the sac to the annulus of the mitral valve and to the annulus of the aortic valve.

33. A method of treating primary pulmonary hypertension by inserting the sac of claim 20 in the right ventricle of the heart and connecting the sac to the annulus of the tricuspid valve and to the annulus of the pulmonic valve.

34. A method of treating rupture of the ventricle by inserting the sac of claim 20 in the ventricle of the heart and connecting the sac to the annulus of the inflow valve and to the annulus of the outflow valve.